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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/732,760	12/10/2003	Daojie Dong	25361A	6557

22889 7590 08/15/2005

OWENS CORNING  
2790 COLUMBUS ROAD  
GRANVILLE, OH 43023

EXAMINER

YAO, SAMCHUAN CUA

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 08/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/732,760

Applicant(s)

DONG ET AL.

Examiner

Sam Chuan C. Yao

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/22/04</u> <u>4/27/5</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 9-13, and 15-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Syme et al (US 6,135,747) in view of Bouchette et al (US 6,517,648), Alderman (US 2003/0061776 A1), and optionally further in view of Zuckerman et al (US 6,207,738).

With respect to claims 1-4, 10-11, 15 -16, and 22-23, Syme et al, drawn to a process for encapsulating in-situ an insulating batt with melt-blown fibers, substantially discloses the process recited in these claims (abstract; col. 3 line 63 to col. 5 line 52; claim 1; figures 1-5). Allen et al differs from these claims in that, Syme et al does not teach applying a cooling fluid to melt-blown fibers to quench a surface portion of melt-blown fibers, while ensuring that the fibers are sufficiently tacky to adhere to a surface of a fiber batt. However, it would have been obvious in the art to cool (i.e. quench) melt-blown fibers using a cooling medium comprising a cooling water and encapsulated PCM particles, because:

a) Alderman teaches providing a layer of PCM onto a surface an insulating batt

Art Unit: 1733

to allow *"for greater efficiency in insulating the interior of a structure (i.e. house) from exterior temperature fluctuations because, with the constant temperature maintained by the S/L PCM layer 130, the insulation system is more immune to fluctuations than it would be with only the fiberglass insulation layer 140."*

(numbered paragraph 26; figures 1-4); b) it is old in the art to incorporate PCM particles to melt-blown fibers by spraying cooling water containing PCM to melt-blown fibers as exemplified in the teachings of Bouchette et al (col. 5 line 56 to col. 6 line 23; figure 1); and, optionally c) it is old in the art to coat a fibrous web with a composition containing a PCM *"when exceptional heat transfer and storage capabilities are desired"* to form a fabric with reversible enhanced thermal properties as exemplified in a related prior art disclosure of Zuckerman et al (col. 1 lines 21-33).

With respect to claims 9 and 12, absent any showing of unexpected result, the recited limitations in these claims are taken to be a result-effective variables routinely optimized by those versed in the art. One in the art would have determined, by routine experimentation, a suitable flowing rate for melt-blown fibers and cooling water and suitable diameter for fibers and water droplets to ensure that PCM particles effectively adhere to melt-blown fibers at the same time ensure that the melt-blown fibers remain sufficiently tacky so that the melt-blown fibers effectively adhere to a surface of the batt. Note that, conventional diameter for melt-blown fibers and conventionally sprayed cooling water would appear to have a ratio that naturally fall within the range recited in claim 12.

Art Unit: 1733

With respect to claim 13, while not explicitly disclosed, the limitation in this claim is expected to naturally flow from a modified process of Syme et al, because melt-blown fibers in a process of Allen et al are expected to have a temperature which is significantly higher than 100 °C. Therefore, water mist/droplets contacting these fibers are expected to vaporize substantially before water-cooled melt-blown fibers reach a surface of a batt.

With respect to claims 17-21, the limitations in these claims are obvious alternative ways to expose side minor surfaces of secondary batt. A preference on whether one in the art apply separating method taught by Syme et al or apply various alternative separating ways is taken to be well within the purview of choice in the art. Only the expected result (of enabling one to sufficiently expose side minor surfaces of secondary batts so that the surfaces can be coated with quenched melt-blown fibers containing PCM) would have been achieved.

Moreover, the recited process steps in these claims would appear to be old in the art. For these reasons, these claims would have been obvious in the art.

3. Claims 5-8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph 2 above as applied to claim 3, and further in view of Patel et al (US 6,191,057) or Jones et al (US 3,955,031).

With respect to claims 5-6 and 14, it is conventional in the art to provide a vapor retarding preformed sheet to a major surface of an insulating batt as exemplified in the teachings of either Patel et al (abstract; figure 3) or Jones et al (col. 3 line 57 to col. 4 line 67;

figures 1-2). It would have been obvious in the art to apply a modified process of Syme et al to a prior art process of making an insulating batt (i.e. a batt with a preformed vapor retarding sheet on one of its major surface) by depositing water-cooled melt-blown fibers containing PCM particles onto exposed surfaces of a prior art insulating batt in order to provide a fibrous protective layer to the insulating batt, but also enhance the thermal characteristics of a finished insulating batt.

With respect to claims 7-8, since it is old in the art to bond a covering sheet to a fibrous web using a melt-blown hot-melting adhesive, these claims would have been obvious in the art. Moreover, it is a common practice in the art to apply a melt-blown hot-melting adhesive onto a covering sheet.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

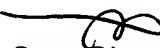
Lostak et al (US 5,240,527) is cited showing a fibrous insulating batt (B) being sliced longitudinally to form a pair of two sub-batts (B',B'') and then the sub-batts are separated from each other increasing the horizontal distance between the sub-batts and lowering each of the sub-batt while rotating the sub-batt (figure 9). Allen et al (US 5,501,872) is cited showing discrete fibrous insulating batt being rotated at various orientations as it is being coated in-situ with melt-blown fibers (figures 2 and 6).

Art Unit: 1733

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (571) 272-1224. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Sam Chuan C. Yao  
Primary Examiner  
Art Unit 1733

Scy  
08-11-05